

# DESIGN DOCUMENT

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## Introduction

In this document we will go through the process of designing. How we created a user-friendly app out of scratch. Which tools we used and more. If you are interested, then please read the full document.

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## Goal

Our goal is to design not just a user-friendly app but also improve the user experience using design principle.

## Inspiration

After gathering our research insights, we started to look for inspirations. First, we thought about what elements do we need in our app? For example, we are going to use a stepper in our app, so I searched some steppers on the internet to get inspired. We did this also for the other elements like buttons eventually we found Neumorphism buttons (Malewicz, sd), this looked very modern so we thought maybe we can use this in our app.

### Image

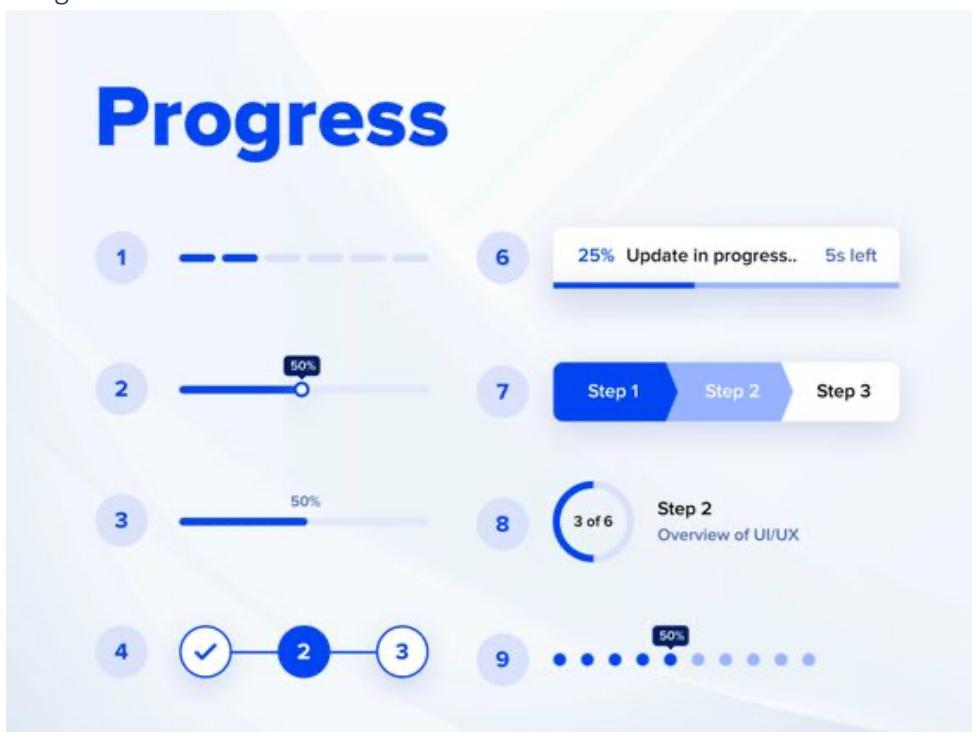


Figure 1 - Inspiration stepper

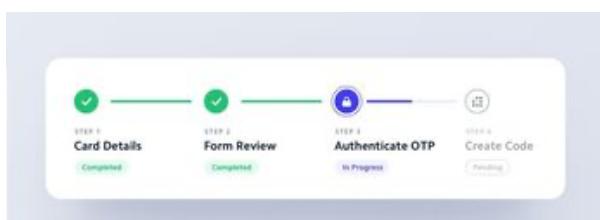


Figure 2 - Inspiration stepper 2

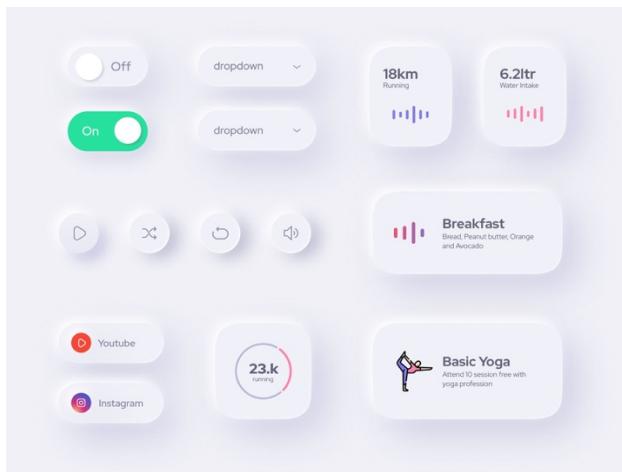


Figure 3 – neomorphism buttons and switches



Figure 4 – buttons gradient



Figure 5 - rounded gradient

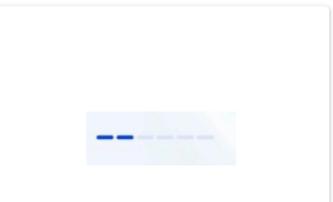
## User test

We did field research where we asked people which design element, they would rather use. We did this through a survey. We asked 10 users few steppers and buttons and gave them the options to choose.

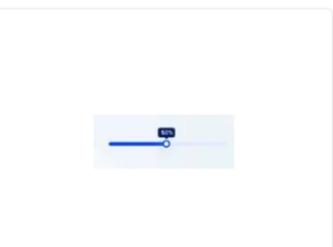
Welke stepper vind je zelf het duidelijkst?



Optie 1



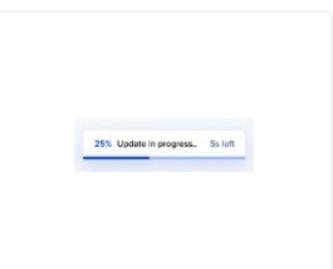
Optie 2



Optie 3



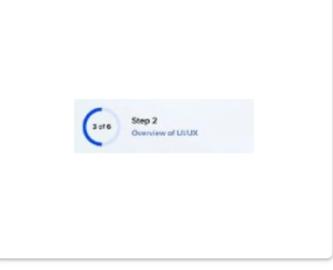
Optie 4



Optie 5



Optie 6



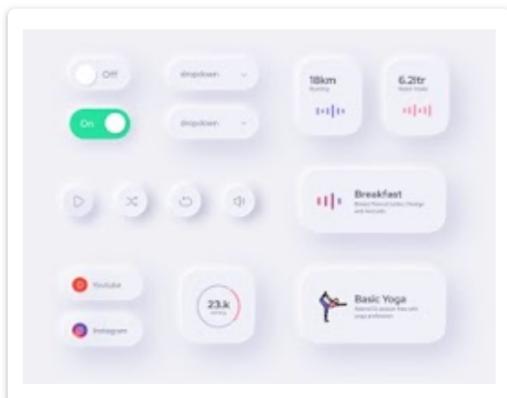
Optie 7



Optie 8

Figure 6 - user test question 1

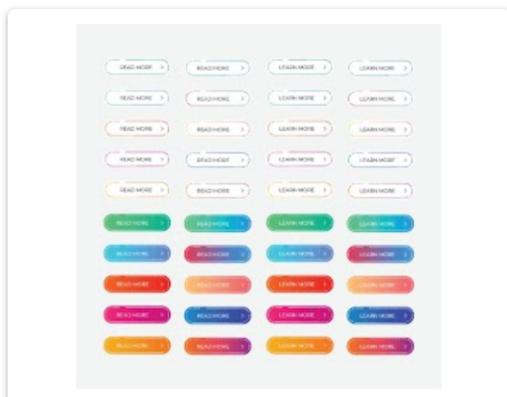
welke buttons zou je kiezen?



Optie 1



Optie 2



Optie 3

Figure 7 - user test question 2

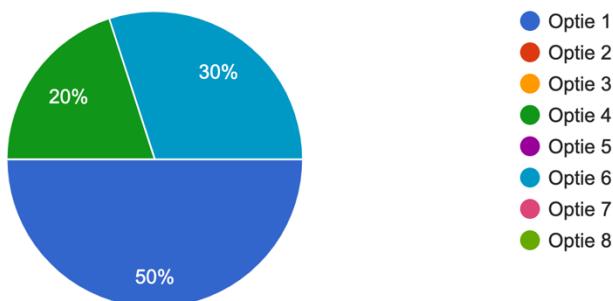
## Result

As a result, from the 10 people 50% choose for option 1. 30% choose for option 6 and 20% choose for option 4. Which means that option 1 is the most patent stepper. Furthermore, for the button it was obvious, 70& choose option 1 which was the neomorphism button.

Based on this result we are going to use neomorphism button and stepper option 1 (Figure 2 - Inspiration stepper 2).

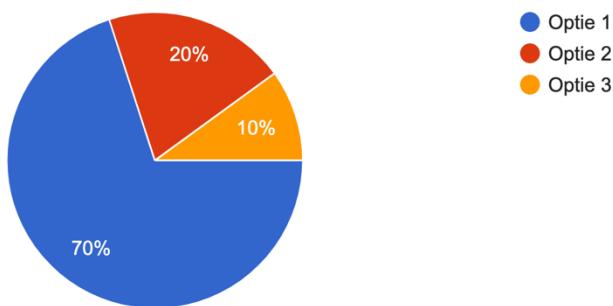
Welke stepper vind je zelf het duidelijkst?

10 antwoorden



welke buttons zou je kiezen?

10 antwoorden



## Wireframe

We made a quick wireframe, we kept it very simple as we wanted to make a minimal viable product. The reason for this is to get a feel of how the app is going to look. You see a Home page with menu on the bottom, also when you click on “Intake” it will bring you to a new page. This page has a stepper on the top, with few options.

As in the design principles, we gave them a few choices like would you like type or scan the VIN? Furthermore, we kept the group related object near each other, we created for each step a page, because otherwise it would be too busy.

Image

## Wireframes

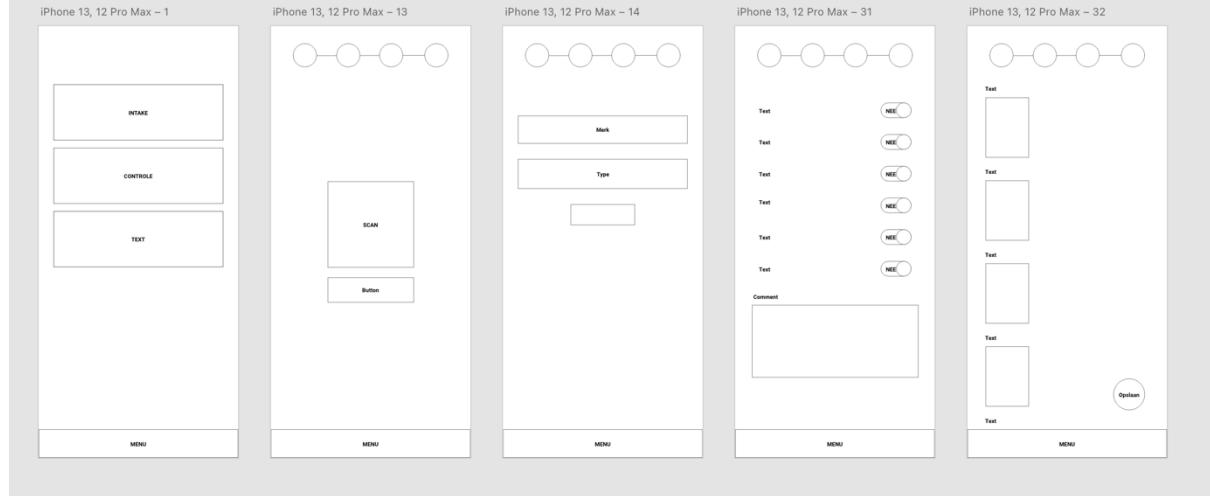


Figure 8 - Wireframes

### Version 1

After the wireframe we created the better design, more detailed. We changed the design of our home page and made changes in the menu, we still placed this on the bottom but made it a button and not a menu bar. Furthermore, we place a next and previous button the reason for this was because our research on mobile technology showed that many people did not know what gestures were. Also, we create a visual hierarchy that matches the user's needs with the use of our color, contrast and kept the important things good to reach.

## Image

### Version 1

#### Design 1

| iPhone 13, 12 ...             |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                               |                               |                               |                               |                               |                               |
| <b>INNAME</b>                 | <b>INTAKE</b>                 | <b>INTAKE</b>                 | <b>INTAKE</b>                 | <b>INTAKE</b>                 | <b>INTAKE</b>                 |
| <b>CONTROLEREN</b>            | <b>Scan VIN</b>               |
| <b>OPDRACHT</b>               | <b>Handmatig VIN invoeren</b> |
|                               |                               |                               |                               |                               |                               |
|                               |                               |                               |                               |                               |                               |
| iPhone 13, 12 ...             |                               |                               |                               |                               |                               |
|                               |                               |                               |                               |                               |                               |
| <b>CONTROLE</b>               | <b>CONTROLE</b>               | <b>CONTROLE</b>               | <b>CONTROLE</b>               | <b>CONTROLE</b>               | <b>CONTROLE</b>               |
| <b>Scan VIN</b>               |
| <b>Handmatig VIN invoeren</b> |
iPhone 13, 12 ...					

Figure 9 - Version 1

## Version 2

After a progress meeting with the target audience and the product owner we got some few feedback on the design, to meet their wishes, we created a new design. This is high quality prototype, we implemented the morphism button design, and choses for a rounded stepper. We chose for a neomorphism button and the rounded button because this what our user like the most from our user test. Furthermore, we moved to the menu on into a hamburger menu because the menu in the bottom were too much distraction.

### Image

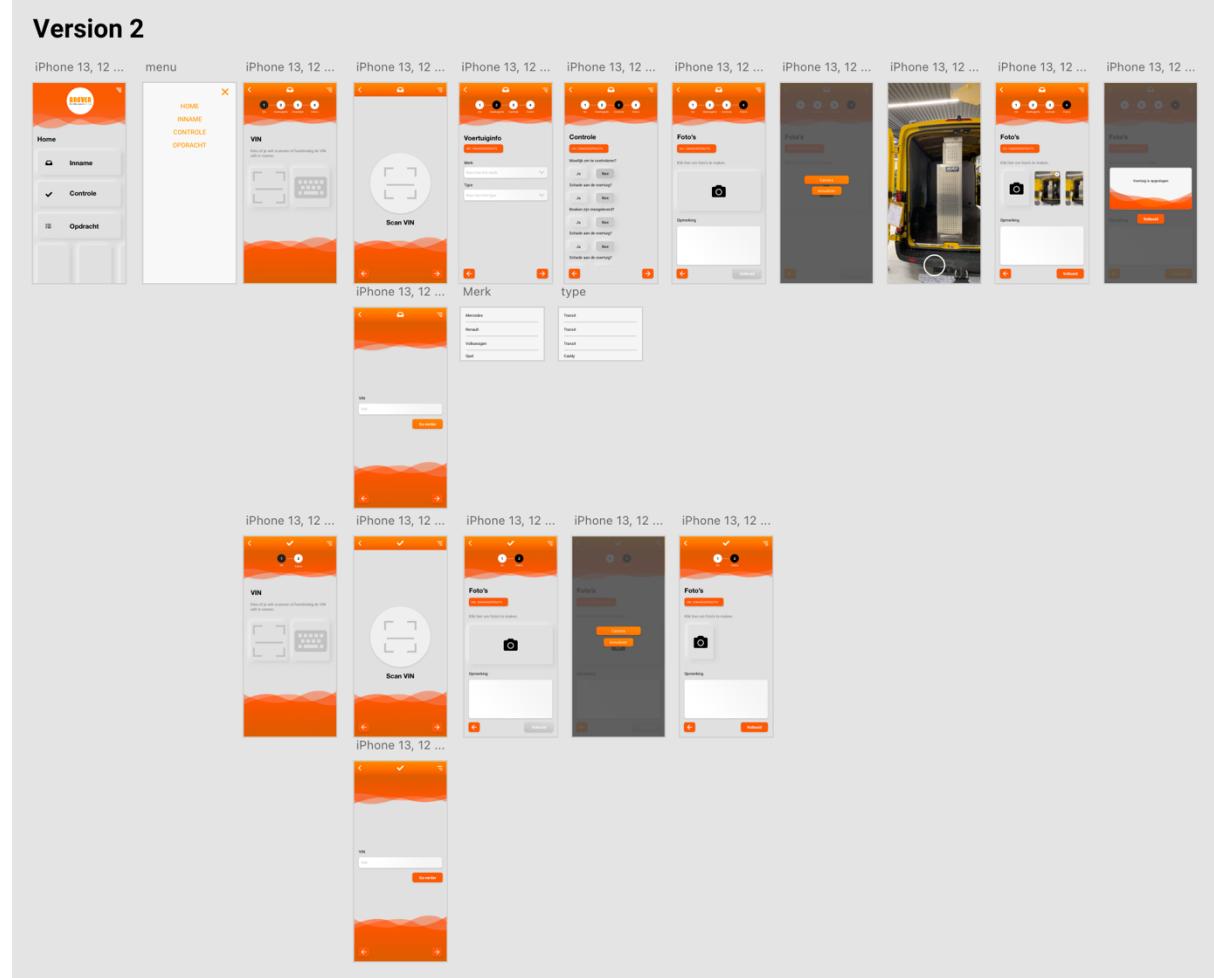


Figure 10 - Version 2

## Version 2.1

There were few things we wanted to change. We kept away the camera button page, because this step was unnecessary. Furthermore, the colour was not exact same as Brover's orange, and we added a scrollbar so that users know which part is scrollable.

### Image

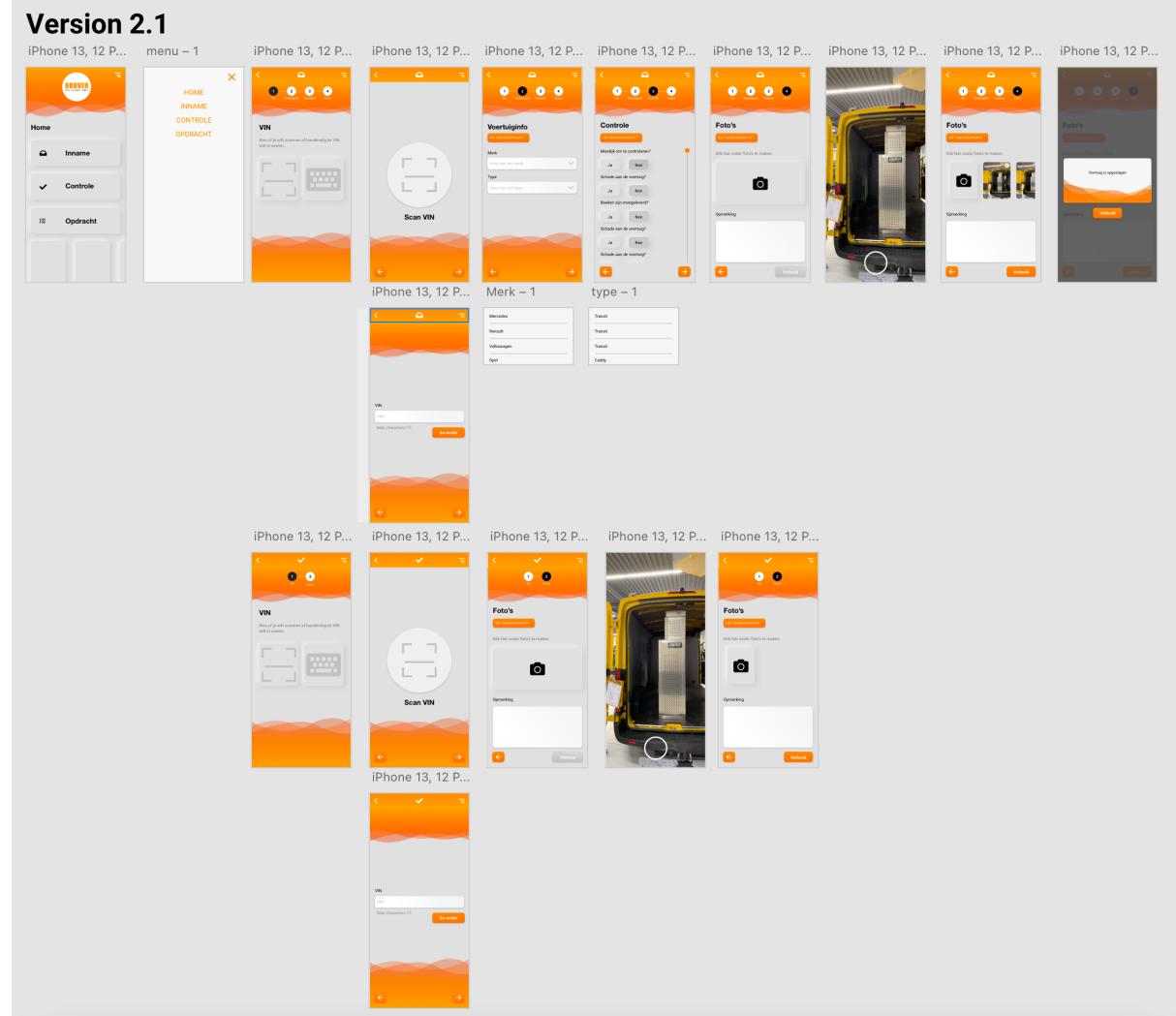


Figure 11 - Version 2.1

## 20 Guiding Principles for Experience Design

After reading a lot of design principle, we decided to use the [20 Guiding Principle for Experience Design](#) (Hess, 2009). We chose this, because this principle mentions some important aspect that fits our project. As an example, people don't like to get distracted from their work or provide feedback after an action.

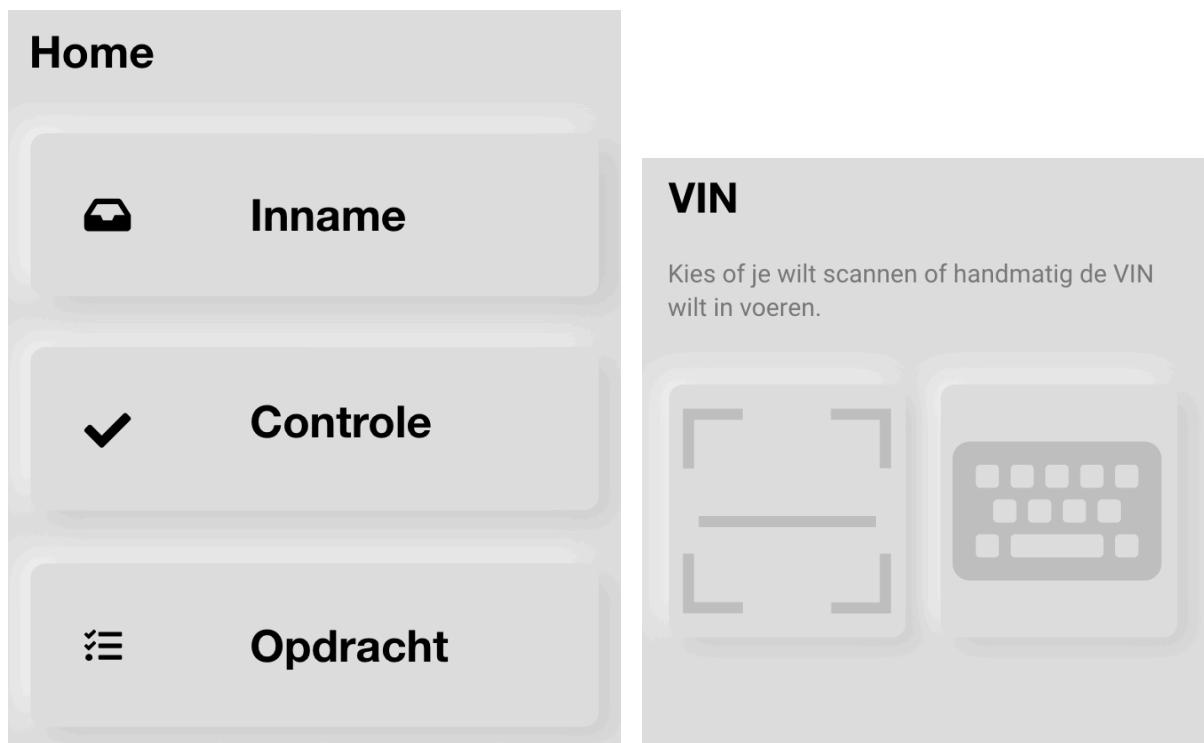
In the next section we are going through every step of this design principle and tell you how we've implemented this.

### 1. Stay out of people's way

We don't want to interrupt our users who are busy doing their work. Their work is time related and get interrupted is very annoying. We implemented this in our stepper, we have done this because the core functions of the user are contained in the stepper.

### 2. Present few choices

We didn't let our user have a lot of choices, the only choice we gave them is scan a VIN or type a VIN manually. Other than that, they can choose between Intake, control or assignment. We also used the VIN to find out the type and brand so that the user doesn't have to enter it.



### 3. Limit distractions

We wanted to limit distractions; this is done by following the first two steps. Other than that, we tried to make the design simple and clean. Not too many images, just background image and few icons to make things clear.

#### 4. Group related objects near each other

Our app is not a big app with a lot of data and functions, but we kept group related things together; this is done in menu we kept the core tasks Intake and control together. Other than that, we split the intake task into groups of tasks this is done by a stepper.



#### 5. Create a visual hierarchy that matches the user's needs

To create a visual hierarchy, we used the Brover color for the background and the button. We kept the design very simple, used modern tile which gives the design unique look.

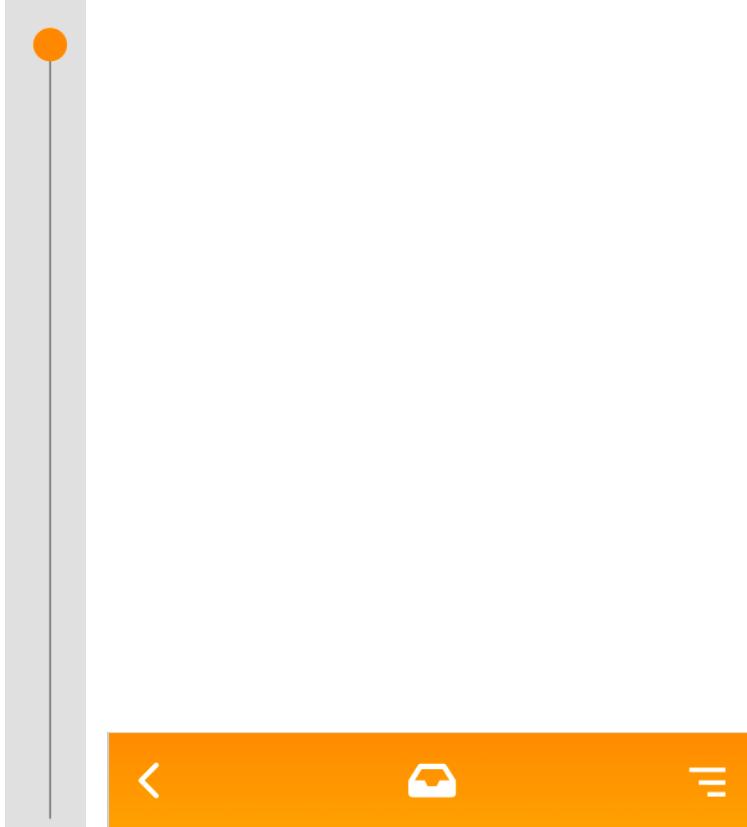


#### 6. Provide strong information scent

We managed to do this with icons and text. Each step has information which makes it clear what to do. We also added a stepper and scroll bar to give the user more information about the position in the app.

## 7. Provide signposts and cues

This is going hand in hand with point 6. We done this by using icons in top bar, in tile and in buttons. Furthermore, we used a stepper to highlight which step our users is. Other than that, we used a scrollbar, so users know its scrollable.



## 8. Provide context

We managed to do this by giving users information like “this flied has maximum of 17 characters.” Or tell user in 1 line what they need to do.

## 9. Avoid jargon

We tried to keep our users in first place, this is the whole goal of this project to work human centered. To avoid jargons, we used Dutch language because not every people in the factory can't speak or read English.

## 10. Make things efficient

We managed to do this by splitting the VIN and fill automatic the car type and car brand. Therefore, the users only must check if its correct. The whole idea of this app is to be efficient, to make the intake and control process efficient, automated and simple.

## 11. Use appropriate defaults

As of point 10, the car brand and type are filled in by default after scanning or typing in the VIN. Other than that, the “yes” “no” questions are also by default set to “no”. This is done because most of the time it's “no”.

Moeilijk om te controleren?

Schade aan de voertuig?

Boeken zijn meegeleverd?

Schade aan de voertuig?

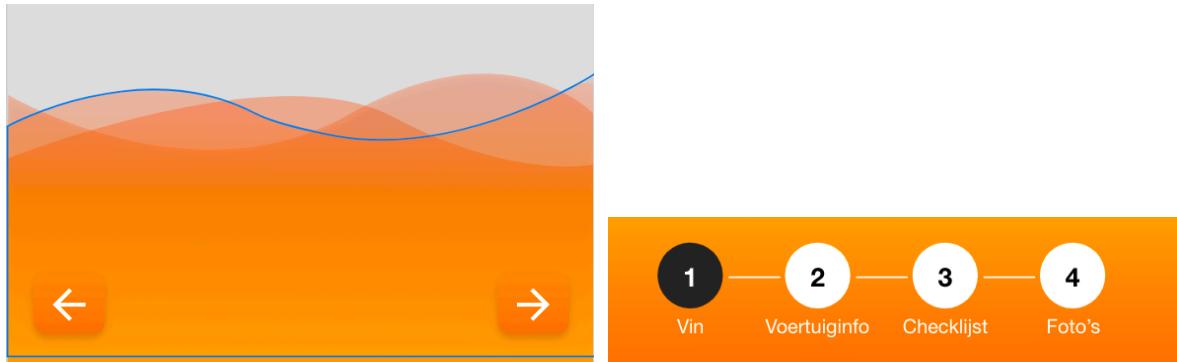
Schade aan de voertuig?

### 12. Use constraints appropriately

To prevent errors like we said earlier, the car type and brand are filled in automatically. This takes away the chance to choose the wrong brand or type. First, we wanted users to type the VIN but there is a big amount of chance that the users make a typing error, to prevent this we added a scan VIN function.

### 13. Make actions reversible

We added multiple ways to reserve an action. We did this by adding 2 buttons in the bottom, one for next step and one for previous step. Another way to do this by tapping on the stepper.

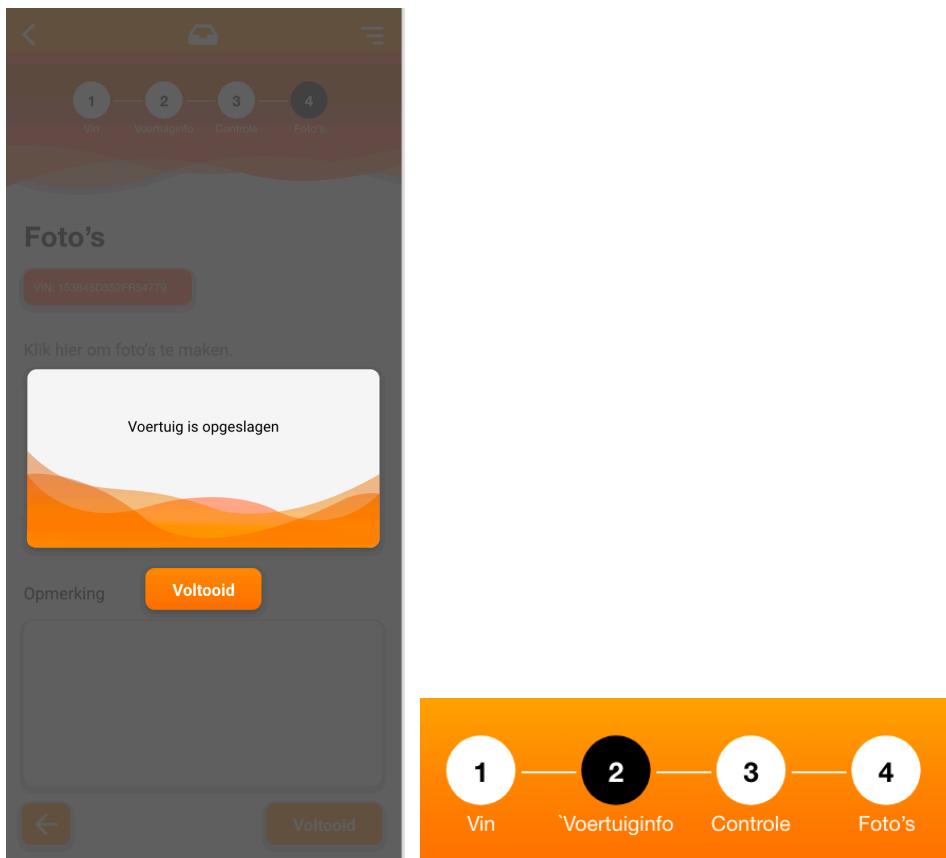


### 14. Reduce latency

To reduce the latency, we can compress the image or program a good app without any errors. This makes sure that users won't have to wait long.

## 15. Provide feedback

This step is very important, in the old version the users didn't get feedback after completing a task, as result they submitted the car multiple times in the system. To prevent this, we gave feedback after submitting a car. But also, when user goes to the next step they see it on the stepper.



## 16. Use emotion

To give a warm and comfortable feeling, we used the orange from Brover's color. Orange is also a very warm color.

## 17. Less is more

We created a design without a lot of images, this gives a minimalistic feel to the design. We used a light color as a background which also gives a minimalistic feel. We truly used only things that are important for the user. Everything else we cut lose.

## 18. Be consistent

We made sure to be consistent throughout the whole app. We used same buttons, 3D tiles and input field, this gives a nice feel to the app.

## 19. Make a good first impression

The design of the app is very modern, this gives instant a good impression, also we added a Brover image on the home page because obviously the users trust their own company. And the orange color is also familiar to them.

## 20. Be credible and trustworthy

Like we said in the previous step we added a Brover logo on the home page, this creates a trustful impression. Also, with the Brover color, they already have seen this color often. It's not new to them.

## Summary

Our goal was to create a user-friendly interface with good user experience using design principle. We can say this goal is achieved. We did user test to find out which element they liked the most and made multiple versions of the design. Next, we need to do is build the app with flutter.

## Bibliography

(Hess, 2009; Malewicz, sd)

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